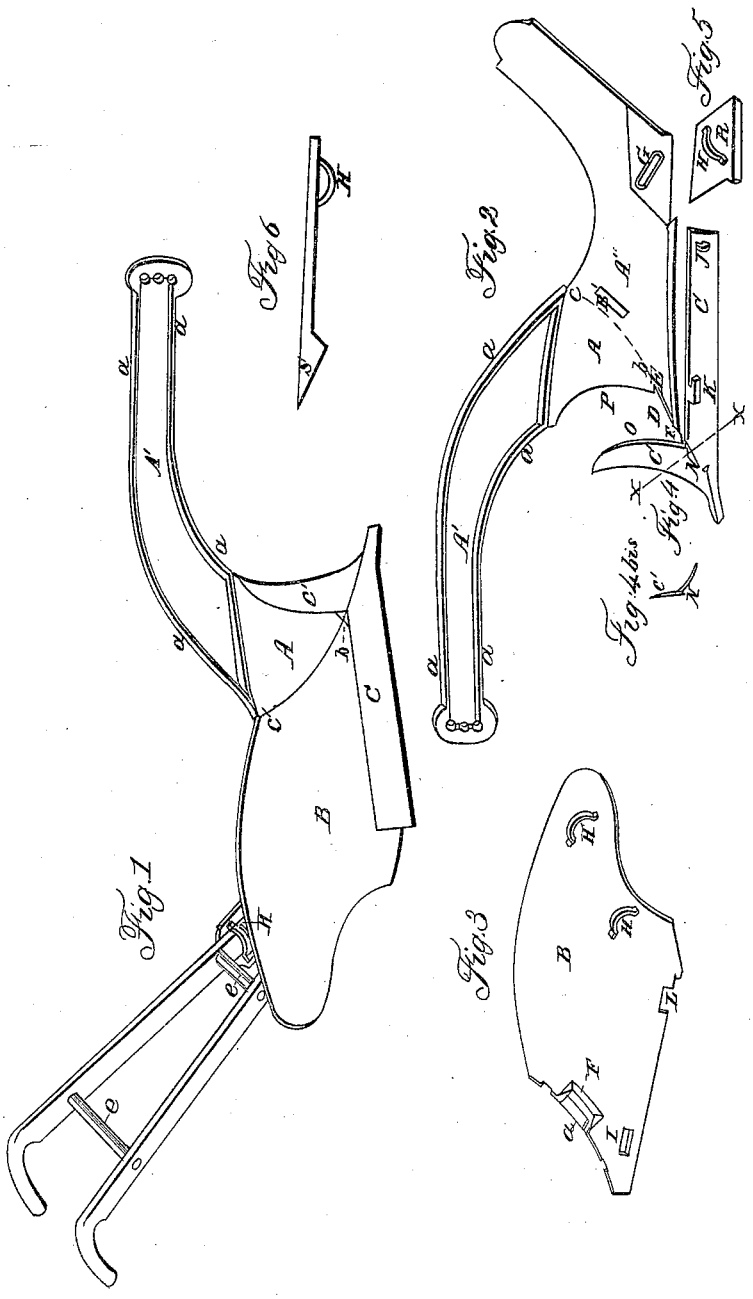
R. McMILLEN.

Plow.

No 2,389. Patented Dec 14, 1841.



UNITED STATES PATENT OFFICE.

R. McMILLEN, OF MIDDLEBURY, OHIO.

IMPROVEMENT IN CAST-IRON PLOWS.

Specification forming part of Letters Patent No. **2,389**, dated December 14, 1841.

To all whom it may concern:

Be it known that I, REUBEN McMILLEN, of Middlebury, in the county of Summit and State of Ohio, have invented a new and useful manner of Constructing a Plow of Cast-Iron; and I do hereby declare that the following is a full and exact description thereof.

My plow consists of three principal pieces, all of cast-iron, the handles only being of wood.

The three principal pieces above referred to consist of the landside and beam, which are cast in one piece; of the mold-board, cast separately; and of the share and colter, also cast in one piece.

In the accompanying drawings, Figure 1 is a perspective view of my plow. In this figure the large portion of the landside is hidden, but the part A constitutes a continuation of it in front of the mold-board B. The beam A′ consists of a flat plate strengthened by means of a projecting rim *a a*, which surrounds it on each side.

The mold-board B constitutes the second principal piece, the inner side of which is shown at B′, Fig. 3.

The share C and the colter C′, which are cast in one piece, constitute the third principal piece, and the inner sides of these are shown in Fig. 4.

The portion A of the landside which, with the beam, constitutes the first principal piece, and which extends forward of the mold-board, is bounded by the front curve, *b c*, of the mold-board, (shown by dotted lines in Fig. 2,) and by the back edge of the colter C′.

The line P in Fig. 2 shows the front edge of the landside, or of the beam, which is a continuation of it, and the line O the rear edge of the colter, which has a V-groove formed along it that fits onto a corresponding ridge on the front edge of the landside or beam. By this provision the colter is so braced or supported, when it and the share are secured in place, as to protect it from being broken or injured by a blow on the under side of the point or share. The form of the beam is peculiar, and is dependent upon the manner in which the landside is continued in front of the mold-board, as shown at A. The lower edge of the beam rises from the lower and forward part of the mold-board at its point *b*, and its upper edge rises directly from the upward and forward end, *c*, of the said mold-board, and is continued upward and forward, in the manner represented in the drawings, to such height and length as to give to it all the properties of a beam. The portion A may be considered, therefore, as equally a continuation of the beam and of the mold-board, and this continuation brings the purchase or stress down to the front edge or end of the landside, where there is no danger of its being broken from the effect of any resistance to which the point of the plow may be subjected.

The following is the manner in which the three principal pieces are attached to each other: At the front end of the mold-board, and close to its front edge, there is cast a projecting piece, F, the part of which that is marked *d* fits and locks into a mortise B′ made through the landside to receive it. The part *d* of this lock-piece passes through the mortise B′, and the back edge of this piece is undercut, dovetailed, or hooking, and in order to cause it to enter the mortise B′ the rear ends of the mold-board and the landside are to be made to approach each other, when the piece *d* may be hooked into the corresponding edge of the mortise, and on separating the rear ends of the mold-board and landside to the proper distance the piece *d* will be locked into the mortise, and will be flush with the outside of the landside, and when the lower ends of the plow-handles are made to enter the loops or staples H H on the inside of the mold-board and the landside the rounds *e e*, which connect the handles, will keep the mold-board and the landside at the proper distance apart.

The share and colter, constituting the third principal piece, are attached in the following manner: There is a mortise through the mold-board at I, Fig. 3, where the share laps onto it, and at K, on the share C, Fig. 3, there is a hooked tenon which passes through this mortise, and this, when entered and slipped back, will hold the share firmly in place; and at J there is a hooked projecting piece which fits into the recess L on the lower edge of the mold-board toward its rear end, serving to hold that end of the share. Instead of the hook J there may be a second hooked tenon and a corresponding mortise, if preferred. By this arrangement, when the tenon has been passed through the mortise and the share is slipped back it will be firmly held in place, and the action of the plow will tend to keep it there. At the same time that this is effected the point D

of the landside is received and held by what I have denominated the "saddle-piece" of the share and colter. The bottom edge of the share, when it joins the colter at N, is undercut, so that a section of it in the line *x x* would present an appearance resembling that shown by Fig. 4bis, and the point D would enter the undercut part of the saddle at N when the share was pushed back in its place, and powerfully aid in holding the parts together.

At E in the landside there is a dovetailed notch, and at F′ there is a dovetailed tenon or piece projecting from the colter and share at their junction, which tenon is received within the notch at the same time that the parts above described are locked together, and when these respective parts are so united no other fastening will be required.

R, Fig. 5, is a false landside fitted to the heel of the true landside, and capable of removal, as in some other plows. This piece has a loop or staple, H, upon it, which passes through the mortise G and receives the lower end of one of the handles, by which means the handle and false landside are mutually held in place.

Fig. 6 is a view of the lower edge of the landside, S being a projecting piece cast on its inner side at its point D, and serving at the same time to strengthen it, and as a rest for the inside of the forward and lower point, *b*, of the mold-board. The cross-section of the point D at the part S would present a triangular figure adapted to the space between the mold-board and the landside.

Having thus fully set forth the nature of my invention, and shown the manner in which the same is carried into operation, I do hereby declare that I do not claim to be the first who has cast the landside and the beam in one piece, this having been previously done, but not in a manner similar to that devised by me.

What I claim, therefore, in this part is—

1. So forming the beam as to cause it on its lower side to rise directly from the forward and lower point, *b*, of the mold-board, and its upper edge to rise directly from the upper and forward end, *c*, of the said mold-board, its lower portion, A, constituting a continuation of the landside, said beam rising thence upward and forward in the manner represented in the drawings hereunto annexed, and in combination therewith the casting of the share and colter in one piece in such a manner as that a V-groove on the back edge of the colter shall be received by a corresponding edge on the front line of the beam or landside A continued, as shown at O P, by which means the colter will be retained in its place and secured against the action of a blow on the under side of the point or share.

2. The particular manner in which I confine the share in place by means of what I have denominated the "saddle," and the hooked tenon or tenons, and the dovetailed tenon F′, adapted to the dovetail gain or notch L in the landside, into which it is slipped back, the respective parts being constructed and operating substantially in the manner herein set forth.

3. The particular manner in which I secure the mold-board to the landside by means of the hooked piece *d*, in combination with the mortise B′, the share C, and the projecting piece S on the inner part of the landside for sustaining the point or forward end of the mold-board, all as herein described.

REUBEN McMILLEN.

Witnesses:
THOS. P. JONES,
JOS. A. ANDREWS.